INTEGRATED TYPE SEMICONDUCTOR LASER ELEMENT

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Abstract of **JP4287389**

PURPOSE:To obtain a small-sized greenish blue laser light source which can be modulated at a high speed and has a high efficiency. CONSTITUTION:GaAS/AlGaAs quantum well type semiconductor lasers 2, 3, and 4 and slab type optical waveguides 5 and 6 composed of ZeSe/ZnS distorted superlattices are monolithically formed on the same n-GaAsl substrate through a coupling grating 7. In addition, a dielectric film 12 which highly reflects exciting oscillation light and another dielectric film 11 which highly reflects exciting oscillation light but does not well reflect second harmonics are respectively formed on the end faces of the light emitting and wavelength converting sections. When such constitution is used, the exciting oscillation light of the wavelength converting section is two-dimensionally enclosed not only in an optical waveguide, but also in the axial direction between both dielectric films 11 and 12 having high reflectivity. Such structure yields a high internal light density which is effective for high-efficiency generation of second harmonics. As a result, greenish blue laser light is efficiently obtained from the output-side dielectric film 11.